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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,014	08/24/2001	Mark Henrik Sandstrom	23010-11153	1123

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EXAMINER
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MOORE JR, MICHAEL J

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/938,014	<b>Applicant(s)</b> SANDSTROM, MARK HENRIK	
	<b>Examiner</b> Michael J. Moore, Jr.	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner. .  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1, 3-6, and 8** are rejected under 35 U.S.C. 102(e) as being anticipated by Beshai et al. (U.S. 6,667,956) (hereinafter "Beshai"). *Beshai* teaches all of the limitations of the specified claims with the reasoning that follows.

Regarding claim **1**, "a network system for interconnecting a set of packet-switching network elements" is anticipated by the multi-class network 20 (network system) shown in Figure 1 that interconnects nodes 22 (packet-switching network elements) as spoken of on column 4, lines 35-40.

"The network system comprising a set of nodes, each node configured to interface with one of the packet-switching network elements and providing a connection of variable capacity to the other nodes of the network system" is anticipated by the node control elements 28 (set of nodes) located within (interface with) each node 22 of Figure 1 that are interconnected via transport links 24 (connection) as spoken of on column 4, lines 38-40 and 61-63, as well

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as the periodic sizing specifications (variable capacity) of the links 24 spoken of on column 4, lines 48-51.

“Each one of the connections configured to transport data from its source node to its destination node and having an associated capacity and traffic load” is anticipated by the inter-nodal links 24 that interconnect node control elements 28 (source nodes, destination nodes) as shown in Figure 1 and that have a traffic load and a link size (capacity) as spoken of on column 5, lines 45-47.

Lastly, “the capacity of each connection controlled from its destination node based at least in part on the traffic loads associated with the connections configured to transport data to that destination node” is anticipated by the providing of traffic measurement data (traffic loads) from node control elements 28 (destination nodes) and the periodic analysis of this data to determine appropriate sizes (capacities) for the links 24 (connections) spoken of on column 5, lines 33-40, as well as column 6, lines 1-5, which states that each link 24 is monitored by each node 22 at opposite ends of the link.

Regarding claim 3, “wherein the traffic loads and the capacities associated with the connections between the set of nodes are dynamic variables” is anticipated by the variable traffic load and periodic link sizing spoken of on column 5, lines 37-43.

Regarding claim 4, “where the capacities of the connections are cyclically optimized with a cycle time that is constant during regular system operation” is anticipated by the traffic measurement data that is accumulated in appropriate

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tables and periodically (cyclically) analyzed in order to determine appropriate sizes (capacities) for the links 24 as spoken of on column 5, lines 37-40.

Regarding claim 5, "wherein a number, up to all, of the nodes are physically located at a single physical platform or are attached to a single chassis" is anticipated by the node control elements 28 located within nodes 22 (single physical platform) of Figure 1.

Regarding claim 6, "wherein one or more of the nodes are integrated into their associated packet-switching network elements" is anticipated by the node control elements 28 located within nodes 22 of Figure 1 spoken of on column 4, lines 61-63.

Regarding claim 8, "wherein one or more of the packet-switching network elements comprises a network system as defined in claim 1" is anticipated by nodes 22 of Figure 1 containing node control elements 28 as spoken of on column 4, lines 61-63.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beshai et al. (U.S. 6,667,956) (hereinafter "Beshai") in view of Dai et al. (U.S. 6,246,692) (hereinafter "Dai").

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Regarding claim 2, *Beshai* teaches the network system of claim 1. *Beshai* does not teach where the network system is configured to set the capacity of a connection to zero when the connection has no traffic load associated therewith and traffic loads associated with other connections to the same destination node cumulatively exceed a predefined limit.

However, *Dai* teaches a packet switching fabric 10 coupled to a plurality of network nodes via links 15 in Figure 1, where after a last burst of packet data in a channel is read out (no remaining load), the channel bandwidth (capacity) for that particular channel is released as spoken of on column 11, lines 46-50.

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to combine the bandwidth teachings of *Dai* with the system of *Beshai* in order to release bandwidth from unneeded connections for reallocation to connections needing additional capacity.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Beshai et al.* (U.S. 6,667,956) (hereinafter "*Beshai*") in view of *Lemieux* (U.S. 6,631,128).

Regarding claim 7, *Beshai* teaches the network system of claim 1. *Beshai* does not teach where the system is at least in part a sub-network of a multi-use or public network, with additional network elements, which do not actively participate in the operation of the thus created sub-network, in pass-through mode either in between the nodes or in between the packet-switching network elements and the nodes of the sub-network.

However, *Lemieux* teaches a topology optimization method where a core network 30 (sub-network) of Figure 1, in a mesh configuration similar to the network 20 of *Beshai*, is used to provide service to stations 16 (additional network elements).

At the time of the invention, it would have been obvious to someone of ordinary skill in the art, given these references, to use the system of *Beshai* to provide service for user devices as in *Lemieux* in order to provide multi-class (voice, video, data) service to end users.

### ***Response to Arguments***

6. Applicant's arguments filed 2/5/07 have been fully considered but they are not persuasive.

Regarding claim 1, Applicant argues that *Beshai* does not teach "the capacity of each connection controlled from its destination node". Further, Applicant argues that *Beshai* teaches control by a single network control element rather than control by destination nodes.

However, as provided in the previous Office Action, *Beshai* teaches the providing of traffic measurement data from node control elements 28 (destination nodes) and the periodic analysis of this data by network control element 26 to determine appropriate sizes (capacities) for the links 24 (connections) spoken of on column 5, lines 33-40. This shows that the node control elements 28 (destination nodes) are involved in the process of controlling the capacities of the links 24 as they measure traffic load and provide this data to the network control

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element 26 so that the sizes (capacities) of the links 24 may be appropriately adjusted.

Further, Applicant argues that in *Beshai*, intermediate nodes 22 are involved in network path allocation rather than just destination nodes.

However, the current claim language does not exclude nodes other than the destination nodes from being involved in the capacity control process.

Therefore, it is held that *Beshai* teaches the above limitation.

Further, Applicant argues that *Beshai* does not teach "based at least in part on the traffic loads associated with the connections".

However, as provided in the previous Office Action, *Beshai* teaches the providing of traffic measurement data (traffic load) from node control elements 28 (destination nodes) as spoken of on column 5, lines 33-40.

Further, as noted by Applicant, *Beshai* teaches that capacity of bands of links 24 are elastic in nature such that capacity may expand and shrink in response to variations in network traffic (traffic load) as spoken of on column 5, lines 20-22.

Therefore, it is held that *Beshai* teaches this limitation.

Lastly, Applicant argues that *Beshai* does not teach "each node ... providing a connection of variable capacity to the other nodes". Applicant further argues that *Beshai*'s network connections do not have variable capacities, as claimed, which would vary automatically according to their traffic load variations.

However, as provided in the previous Office Action, *Beshai* teaches node control elements 28 (set of nodes) located within (interface with) each node 22 of

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Figure 1 that are interconnected via transport links 24 (connections) as spoken of on column 4, lines 38-40 and 61-63.

Further, *Beshai* teaches that the network links 24 contain bands that have variable capacity as spoken of on column 9, lines 23-33. Specifically, the capacity of each band is dynamically adjusted by the number of admitted connections.

Therefore, it is held that *Beshai* teaches connections having variable capacities.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone

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number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (7:30am - 4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mjm MM

Michael J. Moore, Jr.  
Examiner  
Art Unit 2616

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